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Ministry of
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Mineral Exploration and Tourism

A Handbook



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Education Series #1

Mineral Exploration and Tourism

A Handbook

by
Pat Smith, Wordsmiths Ltd.

in cooperation with

Northern Ontario Tourist Outfitters Association
Prospectors and Developers Association of Canada
Ontario Mining Association
Ontario Mineral Exploration Federation
Ontario Ministry of Natural Resources
Ontario Ministry of the Environment
Ontario Ministry of Tourism and Recreation

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1.0 About This Handbook

The purpose of this manual is to set out standards of practice for the mineral exploration industry in Ontario with reference to tourism. Particular emphasis is placed on tourist outfitter operations.

This publication is not a comprehensive operations manual for mineral exploration. While it does make reference to some existing legislation, regulations and policies affecting the industry, the primary responsibility for identifying and complying with all or any laws, regulations or policies affecting mineral exploration activities remains with the industry itself.

Since the standards of practice set out in Section 7 of this handbook are discretionary in nature, it is important that industry leaders encourage and promote their acceptance. This handbook is broadly circulated by the Ministry of Northern Development and Mines across Ontario to assist the mineral exploration and tourism industries in maintaining positive working relationships in the field.

2.0 How to use this handbook

Although the standards of practice within this handbook are directed at the mineral exploration industry, the publication is directed at tourist outfitters and explorationists alike, and to anyone with an interest in multiple land use since the needs and concerns of both industries have been taken into account.

The introductory section provides a background for the development of this handbook, and defines the areas of interest motivating the tourist outfitter and mineral exploration industries.

Tourism values are detailed in Section 4 to provide explorationists with

an understanding and awareness of the priorities of the tourist facility operator.

Section 5, on mineral exploration, provides an overview of the activities tourist facility operators may expect to encounter in areas under exploration.

The regulatory framework outlined in Section 6 examines the amended Ontario Mining Act and the Public Lands Act, which serve as legislative controls for integrated resource management. New regulations and policies under both Acts provide for the careful consideration of many interests, among them those of the surface rights owner. The regulations accompanying the amended Mining Act are in draft form at the time of publication. These regulations are expected to come into effect in 1991. Policies on the issuance of work permits required for mineral exploration under the Public Lands Act are also in draft form at the time of publication.

Section 7 of this handbook is devoted to specific standards of practice for mineral exploration with regard to the protection of tourism values. It should be considered within the regulatory framework outlined in the preceding section.

Included in the appendices are: a glossary of terms; a list of Resident Geologist and Mining Recorder offices in Ontario; regional offices of the Ontario Ministry of Tourism and Recreation; Ministry of the Environment Guidelines & Information Requirements for Land Based and Offshore Drilling; an overview of the duties of the Mining and Lands Commissioner, Resident Geologists and Mining Recorders; and Resolving Concerns - For Tourist Facility Operators.

3.0 Introduction

This handbook was prepared with the assistance of a working group of representatives of the mineral exploration and tourist outfitter industries, along with staff from the Ontario Ministries of Environment, Natural Resources, Northern Development and Mines, and Tourism and Recreation, among others. It examines key regulatory mechanisms affecting the relationship between the mineral exploration and tourism industries, while setting out complementary standards of practice for mineral explorationists.

Industry representatives from both sectors accept and recognize the rights of their counterparts to use Crown land resources in Ontario. The need to define the responsibilities of explorationists toward tourist outfitters is accepted by all as valid and constructive, since the scenic and resource dependent sites suited to tourist activities are dotted throughout Ontario, sometimes in areas of intense interest to prospectors and developers. Conversely, explorationists conducting work regulated under the Ontario Mining Act receive protection for their investments in field work, an underlying principle of integrated resource management.

Even when both industries are operating within the same geographic area, the initial stages of mineral exploration do not typically have a significant impact on tourist facilities. If initial exploration leads to more advanced work however, some disruption can occur. This is addressed through a number of regulatory controls for mineral exploration under the Public Lands Act, and the regulations accompanying the amended Ontario Mining Act. The chief among these for exploration activities is the Multi-Purpose Work Permit, which is issued by district offices of the Ministry of Natural Resources (MNR) under the terms of the Public Lands Act.

This permit is required for exploration work that may impinge upon the resources the MNR is mandated to regulate and protect. In granting such permits MNR considers the multiple uses of the area, including tourism where tourism values are known.

For the most part, the interaction between the tourism and mineral exploration industries has been positive. In some instances exploration crews form an important off-season clientele for lodge owners. Most prospectors and developers are responsible users of wilderness resources, familiar with good field practices for the safe operation of exploration camps.

This handbook examines all the stages of exploration and key aspects of the regulatory framework within which it is carried out. The standards of practice in Section 7 address all stages of activity, including those for which a work permit is not required. These standards have been developed to assist both the mineral exploration and tourist outfitter industries.

4.0 Tourism - The Outfitter Industry

Tourism across Ontario is affected by the regional assets which form the local setting for individual operations. In fulfilling its role as the lead agency for the marketing and development of tourism in the province, the Ministry of Tourism and Recreation promotes these regional assets in a competitive international marketplace. The natural environment of Ontario is important to the tourist industry, as it is to all resource users; the Ministry, in its planning, recognizes that it is a particularly important regional asset in Northern and Eastern Ontario.

Tourist industry representatives participated in the development of a set of guidelines for timber harvesting produced



with the support of the Ontario Ministry of Natural Resources. The tourism values inherent in Ontario's natural assets are defined in this publication, which is entitled "Timber Management Guidelines for the Protection of Tourism Values". Readers may wish to consult this publication given its complementary scope and relevance to this handbook.

The MNR guidelines were developed to serve the forestry sector in the same way this handbook serves mineral explorationists. The MNR publication also describes the types of tourist outfitter facilities in Ontario, and the values essential to the success of these operations. Much of the information presented in this chapter is drawn from the MNR guidelines.

4.1 Nature of Operations

In Ontario, tourism values can be attached to a diverse range of facilities, from public access points or recreational facilities on Crown land to tourist industry ventures. Within the tourist outfitter industry, facilities can take several forms, and these may in turn be established on Crown land under a variety of land tenure

arrangements, from letters patent, to leases, to licences of occupation and land use permits, or on private land. Certain areas, although not actively used for tourism activities, may be identified as having tourism potential, just as all land in Ontario may have mineral potential.

A main base lodge is typically a staffed building or series of buildings offering accommodation and dining facilities, along with resource-dependent recreational opportunities that can include fishing, hunting, boating, waterskiing, photography, hiking, snowmobiling and cross-country skiing. Docks, beaches and trails form an integral part of the operation, allowing for the use of land and water systems. Such lodges may be accessible by road, water, or exclusively by air. Fly-in locations usually cater to tourists in search of superior hunting and fishing opportunities, while road accessible lodges tend to be more moderately priced and family-oriented.

Outpost camps may be part of a network of facilities linked to a main base lodge. Normally they are remote, unstaffed fly-in cabins offering rudimentary facilities. The quality of hunting and or fishing and wilderness experience provided at these locations is considered vital to their success.

Boat caches are sometimes maintained by tourist operators in remote areas accessible by air or portage. Such sites are typically used for short-term visits.

Public access points for boat launching, such as those recognized and maintained by the MNR and those maintained by commercial operators, also form part of the tourist experience in Ontario, along with provincial parks and private or publicly maintained land and water based trail systems.

4.2 Tourism Values

The viability of tourist outfitter operations depends upon a number of important values. Chief among these is remoteness, characterized by a sense of isolation in an undisturbed locale. This value may be conveyed visually, by isolation from other development, through the degree of difficulty of access and through the notion of exclusivity. The sense of isolation increases at boat caches, outpost camps or other remote operations.

4.2.1 Local Setting

Tourists place great importance on the visual appeal of their immediate surroundings, including the tourist facility itself and the surrounding natural environment. Distance from other developments contributes to this visual appeal.

4.2.2 Asset Protection

The tourist facility operator invests private capital in physical assets on patented land, or on Crown land made available from the province through licences of occupation or land use permits. The opportunity to use Crown land for tourist operations usually provides for the land the facilities occupy, but not for the surrounding area.

Many tourist facility operators feel vulnerable because of this arrangement since incompatible adjacent activities can reduce the market value of their personal investments or lower annual operating revenues. The need for asset protection is an important value for the tourist outfitter industry, as it is for all users of Crown land.

4.2.3 Fish and Wildlife

Many tourist facility operators, particularly those in Northern Ontario,



promote fishing and hunting as principal attractions. Most of these operations rely on a high quality setting for these activities. The resources that define this setting and form the habitat for fish and wildlife are critical to the success of the tourist outfitter industry.

5.0 Mineral Exploration - An Overview

5.1 Mineral Potential

The rocks of the Canadian Shield, which underlie 85 per cent of Northern Ontario, host valuable minerals essential to the economic and social well being of all Ontarians. The favourable conditions that encourage exploration are not uniformly found throughout Ontario. While the location and extent of the areas of favourable geology most likely to host mineral deposits are generally known and a matter of public record, not all the locations of mineralization within these areas have been found. Unlike trees, animals, and water bodies, which can be visually assessed, ore bodies lie buried, awaiting discovery.

Some areas may be of intense interest, while others may never be explored. However, significant discoveries of mineralization have been made in areas previously thought to be of low potential. Of that portion of land that is of sufficient interest for preliminary exploration, only a very small percentage will yield results leading to advanced exploration. Mine development is even less likely, and is not land-intensive. All mines past and present have used only 194 square kilometres of Ontario land. Current operations cover 101 square kilometres, about 0.01 per cent of Ontario's total land area. For every new mine discovered, from tens to hundreds of millions of dollars may have been expended on the exploration phase. Pre-production preparations for mining may be conducted over an extended period of time, and a generation may pass before the recovery of an ore body begins.

Finding minerals in quantities and grades large enough to warrant recovery through mining is a process often likened to looking for a needle in a haystack, and it is highly competitive. Since others are searching for that same 'needle', prospectors are secretive about promising new finds.



The process of the search is structured by both geoscientific research and the demands of the world market-place at any given time. Although work carried out by prospectors and developers within any geographic area may be speculative in nature, it is preceded by careful research and study. Building on the previous work of explorationists, each prospector develops a profile of the land in question that suggests the potential for significant mineralization. The search is constantly being renewed, due to technological improvements, advancements in understanding of how deposits are formed and changes in market demand and commodity prices.

The Ministry of Northern Development and Mines provides geoscientific information to the mineral exploration industry through the Ontario Geological Survey, 15 Resident Geologist's Offices and seven Drillcore Libraries. Information on mining rights and titles is provided by nine Mining Recorders and through the Mining Lands Section of the Mineral Development and Lands Branch.

5.2 Preliminary Exploration

Once research points the explorationist to a specific locale, geological, geochemical and geophysical surveys may be carried out. Geological surveys require the geologist to walk through the area of interest on foot, plotting rock formations and outcrops on a map. Where conditions warrant, samples may be collected for laboratory analysis.

Airborne geophysical surveys may be the initial phase of the search in some endeavours. Such surveys rely on remote sensing equipment, either on surface, in drillholes or suspended from fixed-wing aircraft or helicopters. Among the instruments used are the scintillometer or spectrometer to measure radioactivity; the magnetometer to measure magnetic

properties; and electromagnetic systems to assess electrical conductivity.

Each of these research efforts may reveal anomalies in rock formations that suggest the presence of mineralization, resulting in the staking of claims to protect expenditures to date and planned future investments.

Ground crews may cut grid lines through the brush to provide control for the detailed compilation of geotechnical data. The geologist will then systematically walk through the area and collect samples of rock, soil, humus and/or twigs for assay. Ground geophysical surveys (magnetic, electromagnetic, radiometric and/or gravimetric) may be completed on the gridded area.



If the results of these processes are encouraging, additional mapping and sampling may be carried out. This can be accomplished by a number of methods, including hand or mechanized stripping, trenching, blasting and drilling.

5.3 Advanced Exploration

Stripping is the process of removing soil or other material to expose bedrock. Mechanized stripping may be done by a bulldozer, although backhoes mounted on large-tired vehicles or small tracked vehicles are more commonly used and cause less disturbance to the area. Compressed air or water under pressure may also be used to remove soil from the outcrop.

Blasting for the purpose of sampling typically affects a relatively small area, often less than a metre square. In Ontario, the use of explosives is stringently regulated by the Ministry of Labour.

Diamond drilling may be warranted in some circumstances. The diamond drill, a sophisticated piece of equipment that is expensive to operate, enables geologists to obtain core samples by cutting into rock to various depths below surface. Because of its weight, the drill is usually skid-mounted and dragged through the bush by a small dozer or tree skidder, although small drills may be track-mounted, or delivered to remote locations by air. An average drillhole may take two to four days to complete. Other types of rock drills, such as jackhammers, are also in use.

Industry statistics show that only one or two holes in a thousand have mine-making potential.

Reverse circulation drills are used for drilling overburden in glaciated areas. These drills are mostly track-mounted. In some instances sonic drilling is used for overburden investigations.

When the results of diamond drilling are favourable, underground development may be the next stage in the exploration process. Such work is considered to be advanced exploration, and it is to be regulated along with mining under part IX of the amended Mining Act when the Act comes into effect.



At this stage, an underground shaft or adit may be developed to allow for bulk sampling. The objective of these investigations is to determine the size, shape, grade and continuity of the mineralized body.

Many factors dictate whether advanced exploration leads to mining, and these are normally identified in detailed feasibility studies when bulk sampling results are positive. Mineralization only becomes ore when the mining or exploration company can demonstrate to lenders, such as banks or share holders, and regulators, that the mineralized rock can be mined, processed and sold at a profit.

6.0 The Regulatory Framework

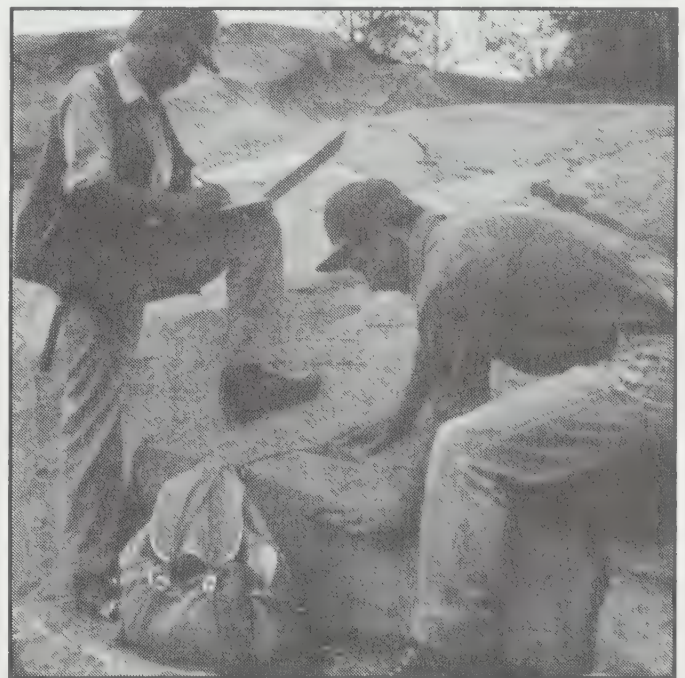
Mineral exploration activities are regulated under the amended Mining Act and the Public Lands Act, through which various other relevant acts, regulations and policies are administered. References to both Acts in this publication are with regard to the impact of mineral exploration on tourism, and in no way constitute a comprehensive summary of all aspects of the law.

6.1 The Mining Act

The newly amended Mining Act is scheduled to come into effect in 1991. Although amendments to the Act include procedural changes for the administration of the industry, environmental protection is a key aspect of the updated law. This is reflected in the purpose of the Act:

“The Purpose of this Act is to encourage prospecting, staking and exploration for the development of mineral resources and to minimize adverse effects on the environment through rehabilitation of mining lands in Ontario.”

There are several sections of the Act which provide for enhanced protection of public lands. While the amended Act confers the same rights as the old Act to prospect and stake out claims on un-staked lands on which the mining rights



have been reserved to the Crown, it increases the responsibility of the proponent with regard to these rights.

The new Act requires that the holder of a mining claim give notice to the owner of surface rights prior to commencing work on a mining claim. Work may

proceed immediately following the day notice is given. Surface rights may be held through the granting, sale, leasing or locating of public lands.

The Act further provides that when surface damages result from mineral exploration activity, compensation must be paid by the claim holder to the surface rights owner. Such compensation must be paid before the claim holder can obtain a mining lease. Conversely, the claim holder is entitled to compensation for damages to work performed on the mining claim.

Although the early stages of mineral exploration are generally not disruptive to surface rights owners, the new Act provides for greater sensitivity to other land uses such as tourism by allowing for modified staking practices. The requirements for the staking of claims are removed from the text of the new Act and set out in accompanying regulations. The draft version of the staking regulations includes provisions for the increased use of witness posts and flagging in environmentally or culturally sensitive areas, and in areas where conventional staking methods are impracticable.

Part IX of the amended Act governs the operation of mines and advanced exploration. In the accompanying draft regulations for this section, advanced exploration is defined as: the excavation of shafts, adits or declines, the extraction of material in excess of 500 tonnes, the installation of a mill for test purposes, the surface stripping of an area greater than 10,000 square metres or the displacement of a volume greater than 10,000 cubic metres. The limits associated with stripping within 100 metres of a pond, river, lake or stream decrease to 2,500 square metres and 2,500 cubic metres respectively.

Environmental protection is addressed in this section through requirements for public and government notice,

detailed requirements for closure and rehabilitation (which must be guaranteed by financial assurances) and increased fines and penalties for non-compliance. Companies planning to conduct advanced exploration must notify the Director of Mines Rehabilitation of their intentions. The Director may then require public notification and the submission of detailed closure plans. Existing mines and exploration sites are affected by the provisions of part IX, and the Director is given broad powers for the enforcement of its requirements.

6.2 The Public Lands Act

The Ministry of Natural Resources is the lead agency for the conservation and management of Ontario resources, and consequently serves as the administrator of the Public Lands Act. The Public Lands Act regulates the management, sale and disposition of public lands and forests, and provides for a number of forms of land use tenure.



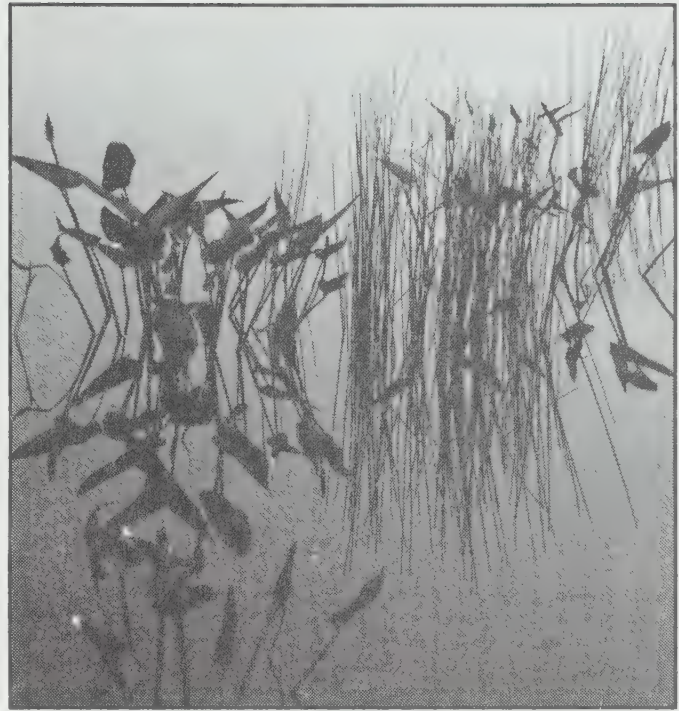
In land use planning, the MNR takes into consideration both areas of natural and scientific interest, such as

unusual geological formations, aboriginal pictographs, plant ecosystems and areas of concern, such as fisheries, heron rookeries, eagle nesting sites and moose travel corridors.

The MNR operates through a decentralized administrative system. While policies and procedures are defined at its headquarters and disseminated through Regional Offices, the operations level of natural resources management is assigned to District Offices and a number of Conservation Authorities.

Under the Public Lands Act, the MNR requires any person proposing to conduct logging, mineral exploration, industrial operations, construction, land clearing, dredging and filling, on public lands or in a forested area (as defined under the Forest Fire Prevention Act), to obtain a Multi-Purpose Work Permit. These permits are issued at the appropriate district office. In addition to giving consent to the placement of material, substances or things on public land, these permits function as approvals under the Forest Fires Prevention Act, the Lakes and Rivers Improvement Act and the Public Lands Act. The Multi-Purpose Work Permit does not relieve the applicant from obtaining other permits and approvals that may be required by other agencies.

When application is made, the legislation under which it is provided is indicated on the front of the form. The MNR then circulates the application for review by all affected parties. When tourism values are known to exist near a work site, the MNR may circulate the application to the Ministry of Tourism and Recreation, and, where warranted, to the Ministry of the Environment. District Land Use Guidelines, the provisions of the Environmental Assessment Act and resource management plans may also be considered. At this stage other known land uses that may be affected by the work



in question may be taken into account.

The Ministry of the Environment requires certificates of approval for some of the activities controlled by the work permit, including most work that produces an emission. The ministry may also be consulted if noise will occur as a result of exploration activity in an area used by other groups. The ministry is typically concerned with activities that may affect air, water and soil quality, and such services as water, sewer and waste management. Ontario environmental legislation gives the MOE a general mandate to deal with quality of the environment issues such as the prevention of pollution.

Explorationists will be advised of nearby tourist operations by MNR at the time of application for a work permit. In addition, claim maps issued by Mining Recorders now include the location of main base tourist lodges which are not accessible by road.

Ontario's Environmental Assessment Act (E.A.A.) may be applied to some mineral exploration activities, such as the construction of access roads. A Class E.A. application for such roads is under review



at the time of publication. Under this legislation, provisions are made for public notice and consultation with affected user groups. The Act is not typically applied to private sector activities, such as mineral exploration, but specific projects can be designated under this Act.

Multi-Purpose Work Permits are required for such activities as the establishment of Type B grid lines, mechanical stripping and trenching, diamond, reverse circulation, roto-sonic and other drilling, dewatering of shafts, bulk sampling, access road and trail construction, road and bridge construction, camp construction where clearings may be made for helicopter landings, or for camps to be in place longer than 30 days. The (draft) policy on the issuance of the work permits for these activities states that such permits will not be refused for land staked and recorded on which exploration activities are permitted or required under the Mining Act. Work permit applications may be obtained from the appropriate District Office of the Ministry of Natural Resources.

While the permit cannot prescribe any method or technology of mineral exploration and mining or any other undertaking under the Mining Act, it does address planning concerns such as road locations and environmental matters, including soil erosion, pollution, waterways management, the control of garbage and waste and the rehabilitation of camp sites. Site-specific concerns are addressed by the MNR in consultation with MNDM Resident Geologists, who retain a copy of mineral exploration work permits within their jurisdiction.

When a violation occurs under the legislation applied to a work permit, the MNR is the enforcing agency. Questions or concerns regarding operations being carried out under a work permit may be addressed to the appropriate MNR district office.

The Multi-Purpose Work Permit sets out the dates on which activities may be carried out, and it is renewable on April 1 of every year. It is non-transferrable, and provides no right to an interest in the title of the land for which it is issued. It provides that the applicant must leave the area concerned in a clean and safe condition.

7.0 Mineral Exploration Standards of Practice for the Protection of Tourism Values

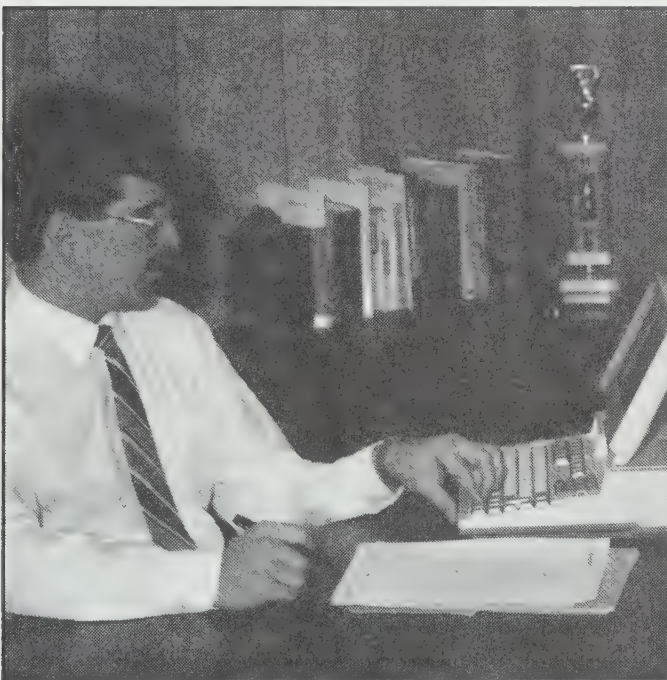
The standards of practice set out in this section are developed with reference to the legislation outlined in Section 6, and have been developed to reduce the range of circumstances that can bring mineral explorationists and tourist facility operators into conflict. These standards address mineral exploration activities only in relation to their potential impact on tourism values. Direct reference should be made to the Mining Act and its accompanying regulations for detailed information regarding the law.

The following standards of practice extend to all stages of mineral exploration up to but not including advanced exploration, since advanced exploration (defined in the preceding section of this publication) is regulated in much the same way as mining under the new Act. The legislative controls for advanced exploration that come into effect under part IX of the amended Mining Act require that extensive advance planning is carried out for environmental protection. Such planning includes careful assessment of other land uses.



7.1 Research and Communication

Claim maps provide the location of those main base tourist operations not accessible by road to assist explorationists in the planning of activities. Regional offices of the Ministry of Tourism and Recreation also maintain maps of tourist operations within their jurisdictions. Since these maps will not indicate the extent of the area of influence surrounding a tourist facility, exploration or development plans should be discussed with the tourist facility operator in advance.



Through consultation with the tourist facility operator, the explorationist can determine whether modifications to work plans are advisable and practicable. Finding out what the tourist operator's concerns are before work begins will allow for full discussion between the two parties. Such discussions might reveal, for instance, that water routes, trail systems, or boat launches and caches are located in the area of influence, although at some distance from the core operation.

Identifying the tourist facility operator's peak season may be important to the planning of exploration work schedules. For instance, if drilling or other mechanized activities will impinge on the operations of a tourist facility, it may be practicable to conduct such activities during the off-season or to modify hours of operation to one (daytime) shift. Discussion with the tourist facility operator should enable both parties to work out acceptable compromise solutions.

7.2 Public Relations

The interpretation of mineral exploration activities can consist of any effort to provide meaningful or interesting information, whether through signage, publications or programs such as a tour or talk by a geologist, to those individuals or groups affected by the activities. While not essential to the material success of an operation, interpretation is an effective means of public relations that can have long-term benefits to the mineral exploration industry.

Mineral exploration activities are part of the Ontario landscape. Interpretive programs can offset the perception that the tourist experience has been compromised by exploration activities.

7.3 Notification

Under the terms of the amended Mining Act, the holder of a mining claim must notify a surface rights owner of the intention to perform ground assessment work on the claim prior to the first time such work is done. Work may begin immediately following the day upon which notice is given. Mining Recorders cannot record ground assessment work until the claim holder files a certificate verifying that surface rights owners have been notified. The Mining Recorder may

determine that it is not feasible to give notice in some circumstances.

7.4 Staking Claims

Under draft regulations of the amended Mining Act, the practice of blazing on trees to mark the boundary of a claim may be modified in “environmentally or culturally sensitive areas”. Witness posts and flagging are the two alternatives to be used in these circumstances. In areas with tourism values, these modified staking methods should be used. Such values may be associated with the visual appeal of shores of bodies of water, or land near or adjacent to tourist facilities and operations, including trail systems, boat caches and outpost camps. The Mining Act has been modified to allow explorationists to show discretion in establishing claim boundaries where tourism values are present, and this change should be used whenever circumstances warrant.

7.5 Mutual Respect

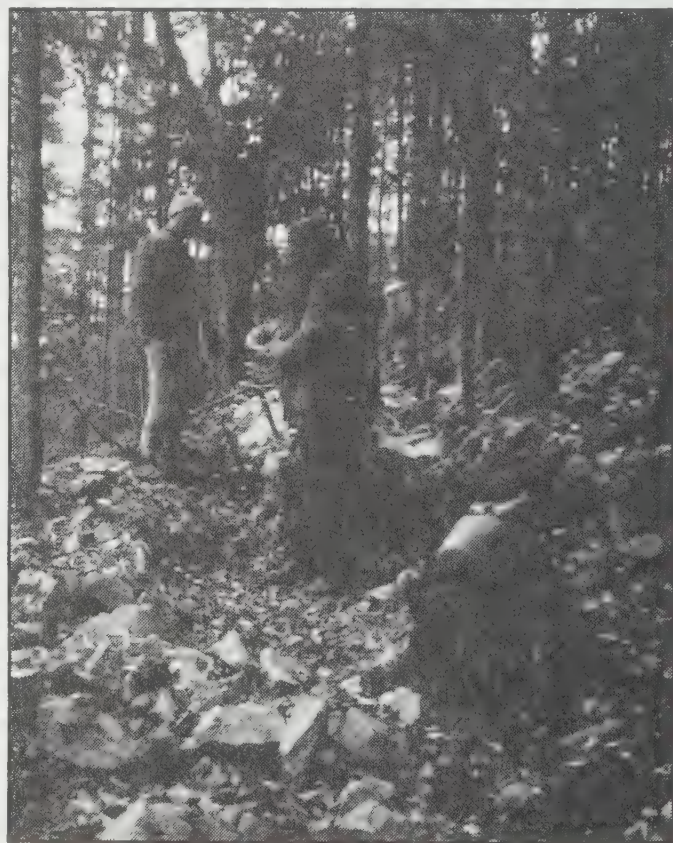
Early research and communication will help explorationists and tourist facility operators to consider each other's needs and concerns. This dialogue can build respect and understanding on both sides. Each must consider the other.

Although tourist facility operators may hold surface rights for the land on which the facility is located, they do rely on the natural surrounding environment to convey the qualities most tourists identify as vital to their experience — a sense of remoteness, distance from development and the visual appeal of the natural environment. Since dissatisfied customers threaten the viability of a tourist operation, the conduct of work crews near such facilities should be compatible with the tourist experience.

Tourist facility operators, for their part, can assist explorationists by encouraging their clients to respect exploration work sites, claim posts, camps, and survey monuments, particularly since the removal of tags or moving of a claim post is a criminal offence. Tourist facility operators can also play a role in promoting safe hunting practices with their clients, of obvious benefit to work crews in nearby areas.

7.6 Front-line Workers

In planning exploration activities, efforts should be made to retain staff and contractors who demonstrate knowledge of and respect for other resource users. Regulatory and discretionary procedures should be fully communicated to those individuals or crews who are employed on-site to perform ground work. The measurement of success in the performance of duties should take into account compliance with such procedures.



7.7 Camp Location and Closure

Campsites intended for use beyond a 30-day period may only be constructed upon obtaining a Multi-Purpose Work Permit from the MNR. In selecting the location for any camp, explorationists should consider its potential impact on any nearby tourist operations. Several alternative locations should be considered, and the one least disruptive to the tourist operation selected whenever possible.

All campsites must be left in a clean and safe condition. Refuse must be removed to a certified landfill site, and toilet pits must be backfilled.

7.8 Road Construction

Multi-purpose work permits must be obtained from the MNR for road and bridge construction, and for stream crossings. In general, plan to use existing roads where possible. Keep road width as narrow as safety, traffic needs and applicable legislation allows. Strive to keep permanent road length to a minimum through the use of tote roads and trails. Avoid areas

of value to other resource users, including tourist facility operators. Avoid wildlife winter ranges, areas susceptible to erosion, areas visible from recreational sites, streams and lakes.

Angle waterway crossings to reduce the visual impact of shoreline clearing, and where possible avoid such crossings in areas of high tourism value.

7.9 Drilling

A Multi-Purpose Work Permit issued by the MNR is required for all drilling. In general, strive to locate drill-holes away from shorelines when feasible. Use the smallest possible clearing for safe operation of the equipment. Ensure that the acceptable Threshold Limit Values for noise set out by the Ministry of Labour are met. Should noise be identified as a cause for concern by a nearby tourist facility operator, consider using sound barriers appropriate to the site and type of drilling equipment used. Refer to Appendix IV for Ministry of the Environment Guidelines and Information Requirements for Land Based and Offshore Drilling. Consultation with the nearest district office of the Ministry of the Environment is encouraged.

7.10 Overburden Stripping and Trenching

A Multi-Purpose Work Permit must be obtained for mechanized stripping and trenching. In general, backhoe stripping and trenching is recommended over bulldozer stripping since backhoe stripping causes less disturbance of the surrounding area. Stockpile the excavated overburden adjacent to the stripped area for use in reclaiming the site. Reclaim the area through revegetation when possible. If mineral soil has been exposed, reseedling is strongly recommended.



7.11 Bedrock Blasting and Trenching

Ensure that all such operations conform with Sections 116 to 147 of Part VI of Regulation 694 of the Occupational Health and Safety Act & Regulations for Mines and Mining Plants.

7.12 Environment Ministry Guidelines

Explorationists must follow all Ministry of the Environment guidelines for drilling, fuel storage and waste disposal.



8. Acknowledgements

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9. References

The following publications and documents were reviewed during the preparation of this handbook:

British Columbia, Ministry of Energy,
Mines and Petroleum Resources. 1989.
Guidelines for Mineral Exploration.

Gammon, John B. 1988.
**Gold and other metals: how they are
found and mined.** The Institution of
Mining and Metallurgy, London, England.

Government of Ontario. 1980.
Mining Act.

Government of Ontario. 1988.
**Occupational Health and Safety Act and
Regulations for Mines and Mining Plants.**

Government of Ontario. 1989.
Bill 71. An Act to amend the Mining Act.

Government of Ontario. 1989.
Public Lands Act.

Government of Ontario. 1989/90.
Index To Services.

Laporte, Russell. 1982.
Practical Aspects of Noise Suppression.
Canadian Diamond Drilling Association.
39th Convention Technical Papers

Ministry of Natural Resources. 1989.
**Planning and Development Guidelines
for Natural Resource Management.**

Ministry of Natural Resources. 1989.
**Timber Management Guidelines for the
Protection of Tourism Values.**

Ministry of Natural Resources. 1990.
**Policy LM 7.01.08. (Draft). Multiple
Use Work Permit.**

Ministry of Northern Development and
Mines. 1988.
**Ontario's Mines and Minerals Policy and
Legislation: A Green Paper.**

Noranda Research Centre & Heathwood
Engineering Associates Limited. 1980-83.
**Diamond Drill Noise Study. Phases I, II,
III.**

Northern Ontario Tourist Outfitters
Association. 1989.
**NOTO Response to the Green Paper on
Mines and Minerals Policy and Legisla-
tion.**

Northern Ontario Tourist Outfitters
Association. Annual.
**Northern Ontario. Official Publication of
the Northern Ontario Tourist Outfitters
Association** (list of facilities).

Appendix I

Glossary of Terms

ADIT

A horizontal underground entrance providing access to a body of ore through the side of a hill or mountain.

AREA OF INFLUENCE

The area affected by an undertaking on public lands.

BLAZING

The practice of marking the boundaries of a mining claim by removing the bark from a portion of a tree.

CERTIFIED LANDFILL SITE

A site certified by the Ministry of the Environment for the disposal of waste by landfilling.

ENVIRONMENT

Air, land or water; plant and animal life, including man; the social, economic and cultural conditions that influence the life of man or a community; any building, structure, machine, or other device or thing made by man; any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from the activities of man; any part or combination of the foregoing and the interrelationships between any two or more of them.

FLAGGING

The practice of marking the boundary of a mining claim by tying plastic stripping around branches.

GEOCHEMISTRY

The science of the chemical properties of the earth.

GEOLOGY

The science of the earth's crust and strata and their relationships.

GEOPHYSICS

The science of the physical properties of the earth.

GRID LINES

A network of survey or map reference lines cut into the bush.

GRID LINES - TYPE A

For the purposes of the MNR Multiple-Purpose Work Permit (draft) Policy, grid lines no wider than 1 metre with a spacing of not less than 20 metres used primarily for survey control.

GRID LINES - TYPE B

For the purposes of the MNR Multiple-Purpose Work Permit (draft) Policy, grid lines cut wider than 1 metre and/or with a spacing of 20 metres or less.

HABITAT

The natural home of a plant or animal.

INTEGRATED RESOURCE MANAGEMENT

Resource management that takes into account the impact of resource utilization on the full spectrum of natural resources.

OVERBURDEN

All unconsolidated material that lies above bedrock. May include soil, sand and gravel deposits, peat and weathered rock.

PATENTED LAND

Land for which a title or interest has been granted.

PROPONENT

Person putting forward a proposal; for this publication, the explorationist.

SHAFT

A vertical or inclined access to an underground ore body.

STAKING

The setting out of the boundaries of a mining claim by marking lines and erecting and tagging posts.

WITNESS POST

A post used to project boundaries of a claim when physical, environmental, or cultural factors make it impracticable to continue erecting individually tagged posts.

Appendix II

Resident Geologist and Mining Recorder Offices in Ontario

NORTHWESTERN REGION

Kenora

Resident Geologist's Office
Telephone: (807) 468-2813

Mining Recorder Office
Telephone (807) 468-2815

Box 5200, 808 Robertson Street
Kenora P9N 3X9
Facsimile: (807) 468-2823

Red Lake

Resident Geologist's Office
Telephone: (807) 727-3272

Mining Recorder Office
Telephone: (807) 727-3284

Box 324, Ontario Government Building
Red Lake P0V 2M0
Facsimile: (807) 727-3553

Sioux Lookout/Patricia

Resident Geologist's Office
Telephone: (807) 737-2037

Mining Recorder Office
Telephone: (807) 737-2034

Box 3000, Court House Building
Sioux Lookout P0V 5G6
Facsimile: (807) 737-1727

Thunder Bay

Resident Geologist's Office
Telephone: (807) 475-1331

Mining Recorder Office
Telephone: (807) 475-1311

435 James Street South
Thunder Bay P7E 6E3
Facsimile: (807) 475-1124

NORTHEASTERN REGION

Timmins/Porcupine

Resident Geologist's Office
Telephone: (705) 360-8350

Mining Recorder Office
Telephone: (705) 360-8330

60 Wilson Avenue
Timmins P4N 2S7
Facsimile: (705) 264-8723

Kirkland Lake/Larder Lake

Resident Geologist's Office
Telephone: (705) 567-5242

Mining Recorder Office
Telephone: (705) 567-9242

4 Government Road East
Kirkland Lake P2N 1A2
Facsimile: (705) 567-5621

Sault Ste. Marie

Resident Geologist's Office
Mining Recorder Office
Telephone: (705) 949-1231

875 Queen Street East
Sault Ste. Marie P6A 2B3
Facsimile: (705) 949-0014

Sudbury

Resident Geologist's Office
Telephone: (705) 670-7327

Mining Recorder Office
Telephone: (705) 670-7319

2nd floor, 159 Cedar Street
Sudbury P3E 6A5
Facsimile: (705) 670-7323

Wawa

Resident Geologist's Office
Box 530, Helen Mine Road
Wawa P0S 1K0
Telephone: (705) 856-4884

Facsimile: (705) 856-4282

SOUTHERN ONTARIO REGION

Toronto

Mining Recorder Office
1st floor, 10 Wellesley Street East
Toronto M4Y 1G2
Telephone: (416) 965-1322
Facsimile: (416) 963-0257

Dorset

Resident Geologist's Office
Box 190
Dorset P0A 1E0
Telephone: (705) 766-2494
Facsimile: (705) 766-9976

Tweed

Resident Geologist's Office
B.S. 43, Old Troy Road
Tweed, K0K 3J0
Telephone: (613) 478-2330
Facsimile (613) 478-6247

London

Resident Geologist's Office
Box 5463, 659 Exeter Road
London N6A 4L6
Telephone: (519) 661-2773
Facsimile: (519) 661-6247

Appendix III Regional Offices of the Ministry of Tourism and Recreation

CENTRAL REGION

700 Bay Street, 8th floor,
Toronto M5G 1Z6
Telephone: (416) 965-0286

EASTERN REGION

10 Rideau Street, 4th floor,
Ottawa K1N 9J1

Telephone: (613) 566-3721

SOUTHWEST REGION

255 Dufferin Avenue, Suite 601,
London N6A 5K6
Telephone: (519) 679-7156

NORTHEAST REGION

199 Larch Street, 4th floor,
Sudbury P3E 5P9
Telephone: (705) 688-3035

NORTHWEST REGION

Lower Level,
Ontario Government Building,
Box 5000, 435 South James Street,
Thunder Bay P7C 5G6
Telephone: (807) 475-1325

Appendix IV Ministry of the Environment Guidelines & Information Requirements for Land Based Drilling

1. All garbage must be contained and disposed of in an approved waste disposal site and sewage must be handled in an approved septic or sewage system. The method of containment and the location of the sites you will be using for waste disposal must be documented and records retained by the operator for a period of one year.
2. All petroleum products must be contained in suitable closed metal containers. Extreme caution must be exercised in their handling to prevent escape to the environment ie. drip trays, etc. Should any spill result from the operations, the Ministry of the Environ-



ment Spills Action Centre must be notified immediately at 1-800-268-6060.

3. Fuel oils must be transported, transferred and stored in closed systems. Transfer hoses must be drained into containers. If any leaks develop during transfer, the transfer operations must immediately be halted. Any fuel spillage must be absorbed and along with contaminated soil hauled in closed containers to an approved landfill site. The Ministry of the Environment Spills Action Centre must be notified immediately at 1-800-268-6060, should any spill result.
4. All chemical and/or mud additives must be stored and handled with every precaution to prevent loss.
5. Water used in the equipment during winter months must contain only biodegradable additives.
6. Drill sludge must be collected and disposed of in an acceptable waste disposal site.
7. Return water may not be discharged to surface waters unless it has been treated for solids removal; resulting sludges may then be disposed of in approved on-land waste disposal sites.
8. Section 10 of the Ontario Water Resources Act and section 127 of the Environmental Protection Act authorize employees of the Ministry of the Environment to inspect any lands, buildings, structures, machines, vehicles, water or air at any time for the administration of Provincial environmental legislation. You may be subject to such inspection during the course of your

operation.

Ministry of the Environment Guidelines and Information Requirements For Offshore Drilling

1. Shorelines affected by drilling operations must be restored to the original state following the use of access points.
2. All garbage and sewage must be contained and disposed of only in approved waste disposal sites and septic or sewage systems. The method of containment and the location of the sites you will be using for waste disposal must be documented and records retained for a period of one year.
3. The drill pipe must be removed or cut off at the surface of the lake bottom.
4. All petroleum products must be contained in suitable closed metal containers. Extreme caution must be exercised in their handling to prevent escape to the environment ie. drip trays, etc. Should any spill result from the operations the Ministry of the Environment Spills Action Centre at 1-800-268-6060 must be notified immediately.
5. Fuel oils must be transported, transferred and stored in closed systems. Transfer hoses must be drained into containers. If any leaks develop during transfer, the transfer operations must immediately be halted. Any fuel spill onto the ice or ground must be absorbed and hauled in closed containers to an approved landfill site or incinerated and visible ash and debris disposed of at an approved landfill site. The Ministry of the Environment Spills Action Centre at 1-800-268-6060 must be notified immediately, should any spill result.
6. Mud additives must be stored and handled with every precaution to



prevent loss to the water. They must be stored under watertight cover.

7. Water used in the equipment during winter months must contain only biodegradable additives.
8. Return water may not be discharged to surface waters unless it has been treated for solids removal; resulting sludges may then be disposed of in approved on-land waste disposal sites.
9. Section 10 of the Ontario Water Resources Act and section 127 of the Environmental Protection Act authorize employees of the Ministry of the Environment to inspect any lands, buildings, structures, machines, vehicles, water or air at any time for the administration of Provincial environmental legislation. You may be subject to such inspection during the course of your operation.

For further information contact your nearest Ministry of the Environment office.

Appendix V

The Mining and Lands Commissioner, Resident Geologist and Mining Recorder Functions

THE MINING AND LANDS COMMISSIONER

The Commissioner is appointed by the Lieutenant Governor in Council. A judicial and administrative officer, the Commissioner presides over a tribunal with jurisdiction similar to that of a trial court for hearings of appeal held under the authority of the Mining Act, the Conservation Authorities Act, the Lakes and Rivers Improvement Act, the Beach Protection Act and the Mining Tax Act.

Mining-related hearings frequently result from appeals pursuant to mining claim dispute judgements rendered by the Mining Recorders. Other judgements include granting relief from forfeiture of claims, revoking prospectors' licences and awarding compensation for surface rights damage.

RESIDENT GEOLOGISTS

From their 15 field offices, Resident Geologists provide consultative services relating to mineral resources to government, industry and the public, maintaining libraries and information on the geology and mineral deposits of their assigned area. These geoscientists also offer assistance in local resource development and provide advice on land hazards and land-use planning.

THE MINING RECORDER

Mining Recorders administer the regulations of the Mining Act and serve those seeking information about the status of mineral lands. Mining Recorder offices are located in nine separate mining divisions in Ontario, providing for the regulation and orderly acquisition and disposition of Mining Lands and Titles in Ontario. A Mining Recorder registers all transactions related to staking mining claims and monitors all land-related activities on Crown lands within a geographic mining division. The Mining Recorder accepts applications to record mining claims, grants extensions of time for assessment work, and has the responsibility for deciding conflicts between

interests claiming title to the same piece of ground.

Appendix VI

Resolving Concerns - For Tourist Facility Operators

Tourist facility operators with concerns regarding nearby mineral exploration activities will normally be able to contact the exploration firm directly on-site to discuss these concerns with the project manager. In the event direct contact is not possible, the appropriate District Office of the Ministry of Natural Resources will have a record of any work carried out under a Multiple-Purpose Work Permit, and may be able to assist the operator by providing information about the work in question.

The claim tag numbers on claim posts may be used to identify the exploration firm the tourist facility operator wishes to contact, should the work in question not have been carried out under a work permit. The Mining Recorder office serving the area in question will be able to identify the claim staker through the claim number. However, under no circumstances should claim tags be removed from claim posts by parties wishing to identify claim holders — since such an act is a criminal offence under the law.

If the concerns of the tourist facility operator are about discretionary matters, discussion with the exploration firm should allow for the development of consensus between the two parties. In the event that the exploration work carried out is in contravention of the terms of the work permit, or other laws, regulations, policies or permits, the appropriate enforcing agency should be notified. Where circumstances warrant, stop orders may be issued

by the Mining and Lands Commissioner to prevent the completion of further work authorized under a Multi-Purpose Work Permit.

Tourist facility operators, in addition to contacting the Mining Recorder regarding their concerns, may wish to contact the Prospectors and Developers Association of Canada, at (416) 362-1969, Suite 1002 - 74 Victoria Street, Toronto M5C 2A5, a mineral exploration industry association prepared to assist in promoting high standards of practice among its members.

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